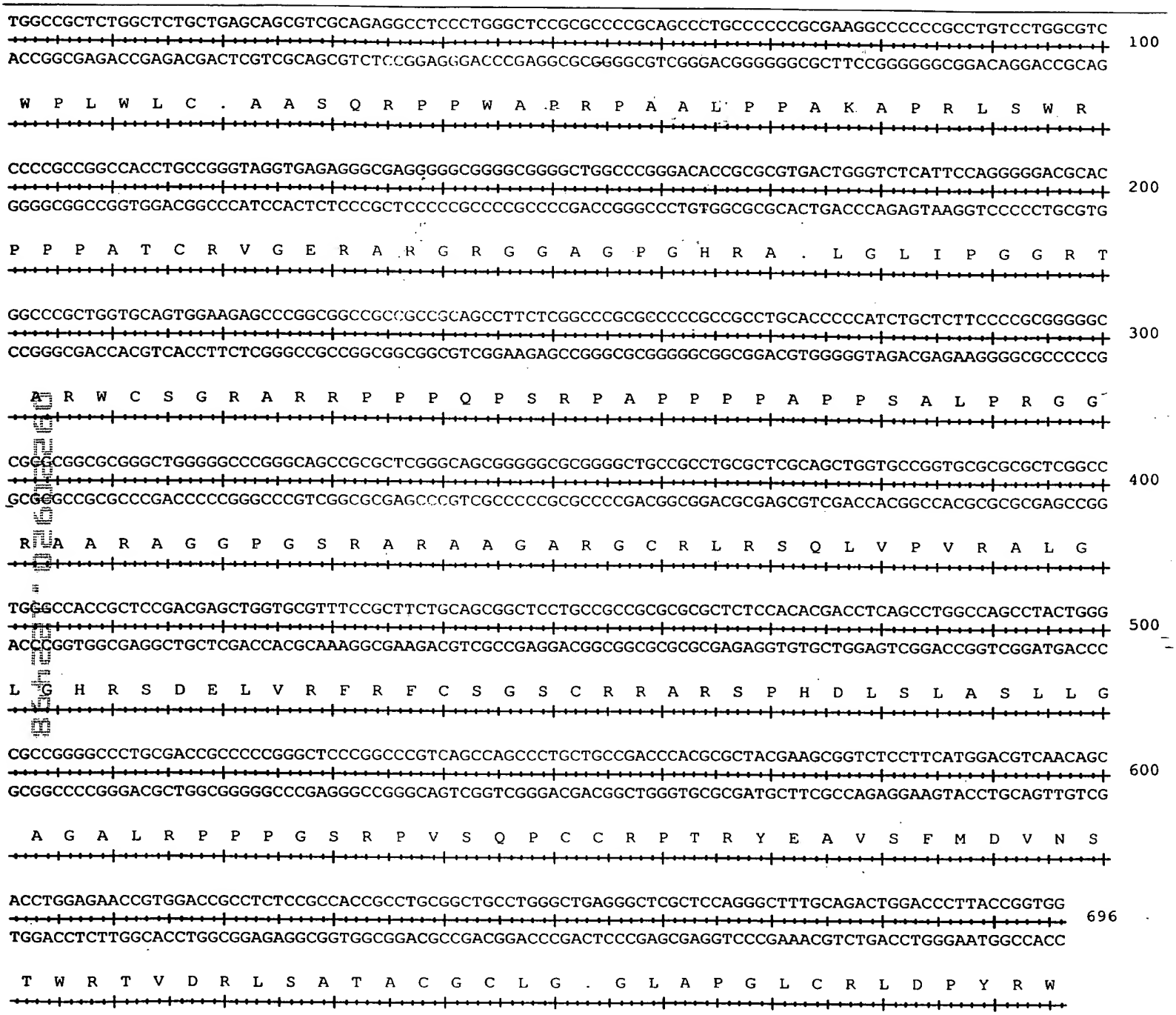
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100
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200
P P P A T C R V G E R A R G R G G A G P G H R A . L G L I P G G R T
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300
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FIGURE 1A

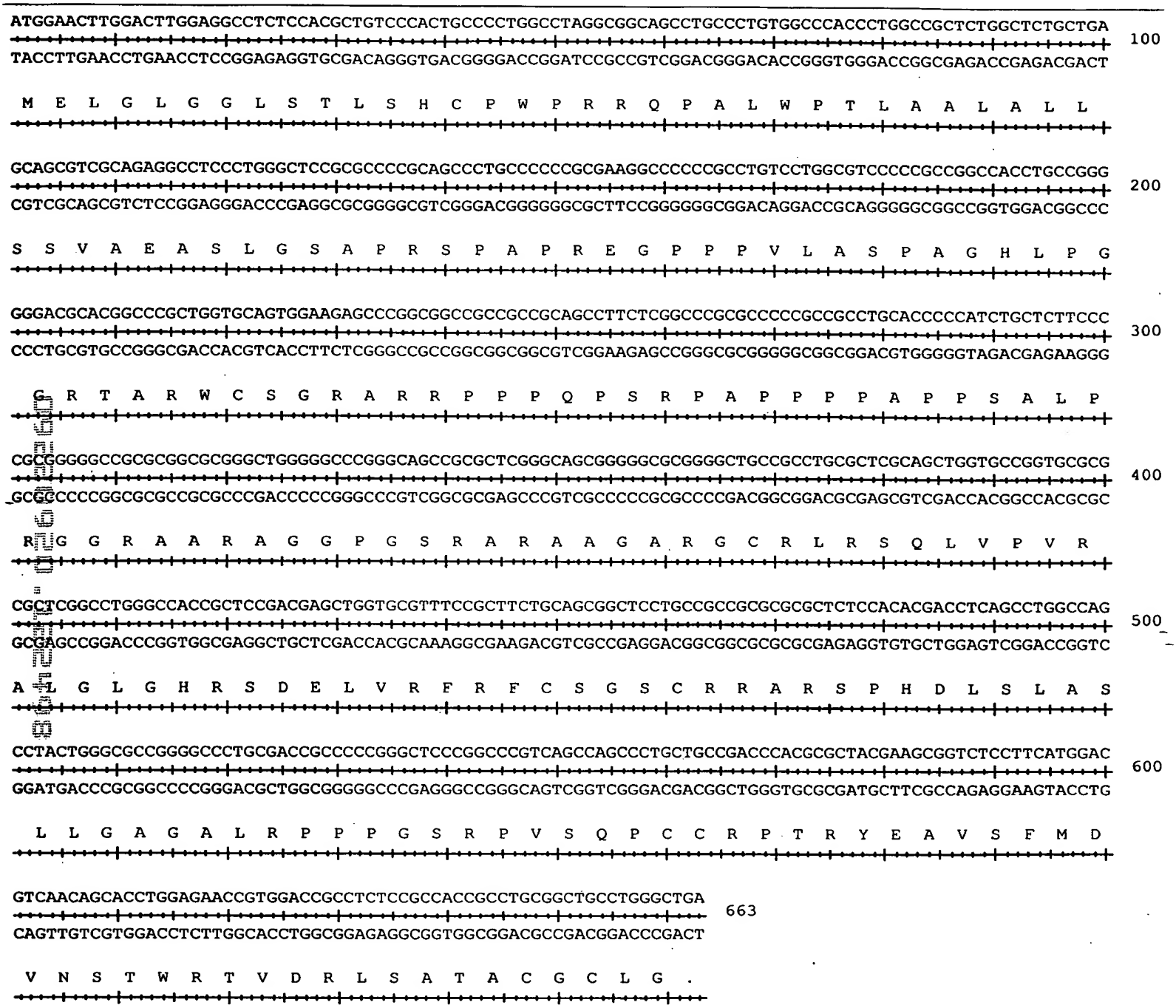
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FIGURE 1B

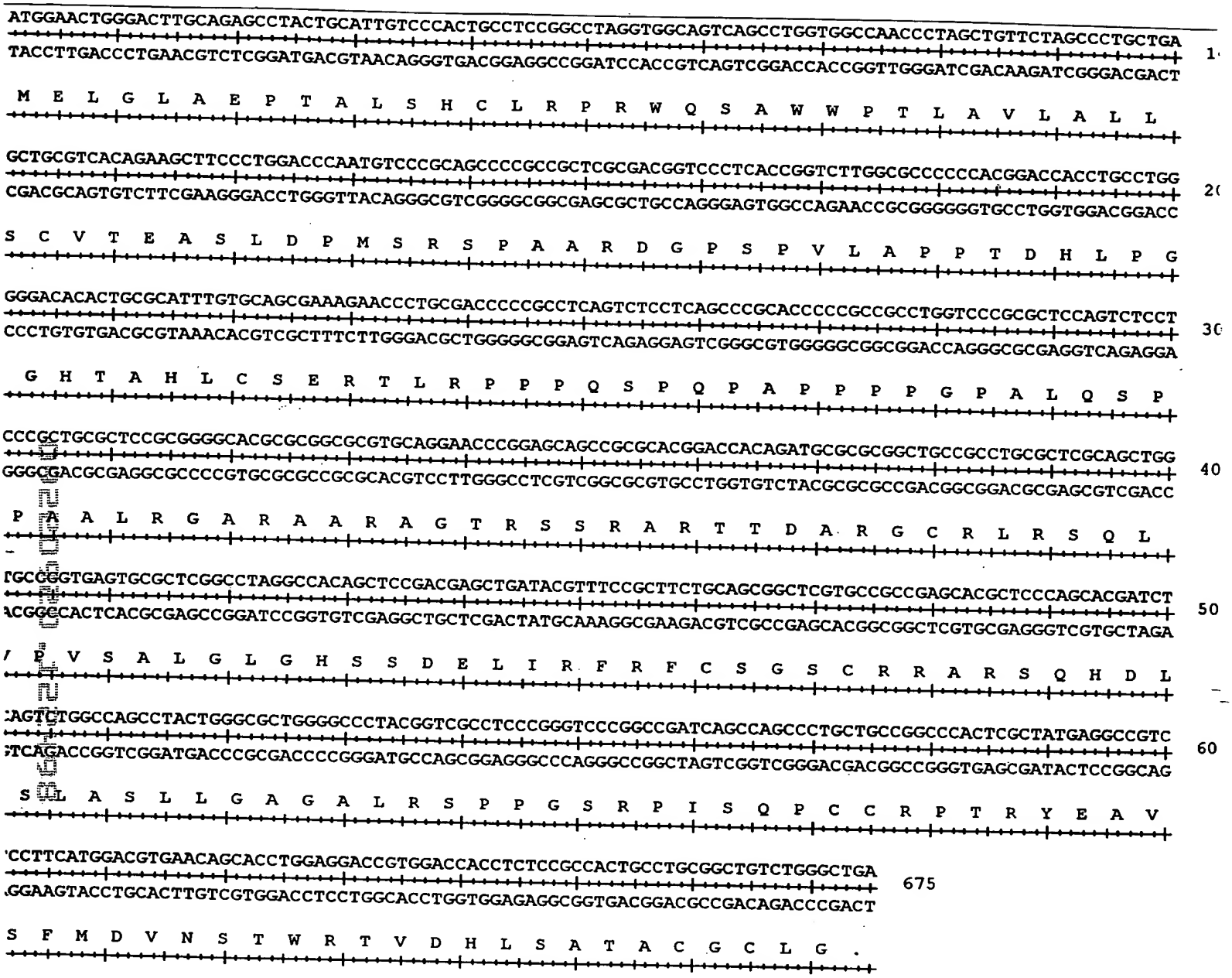
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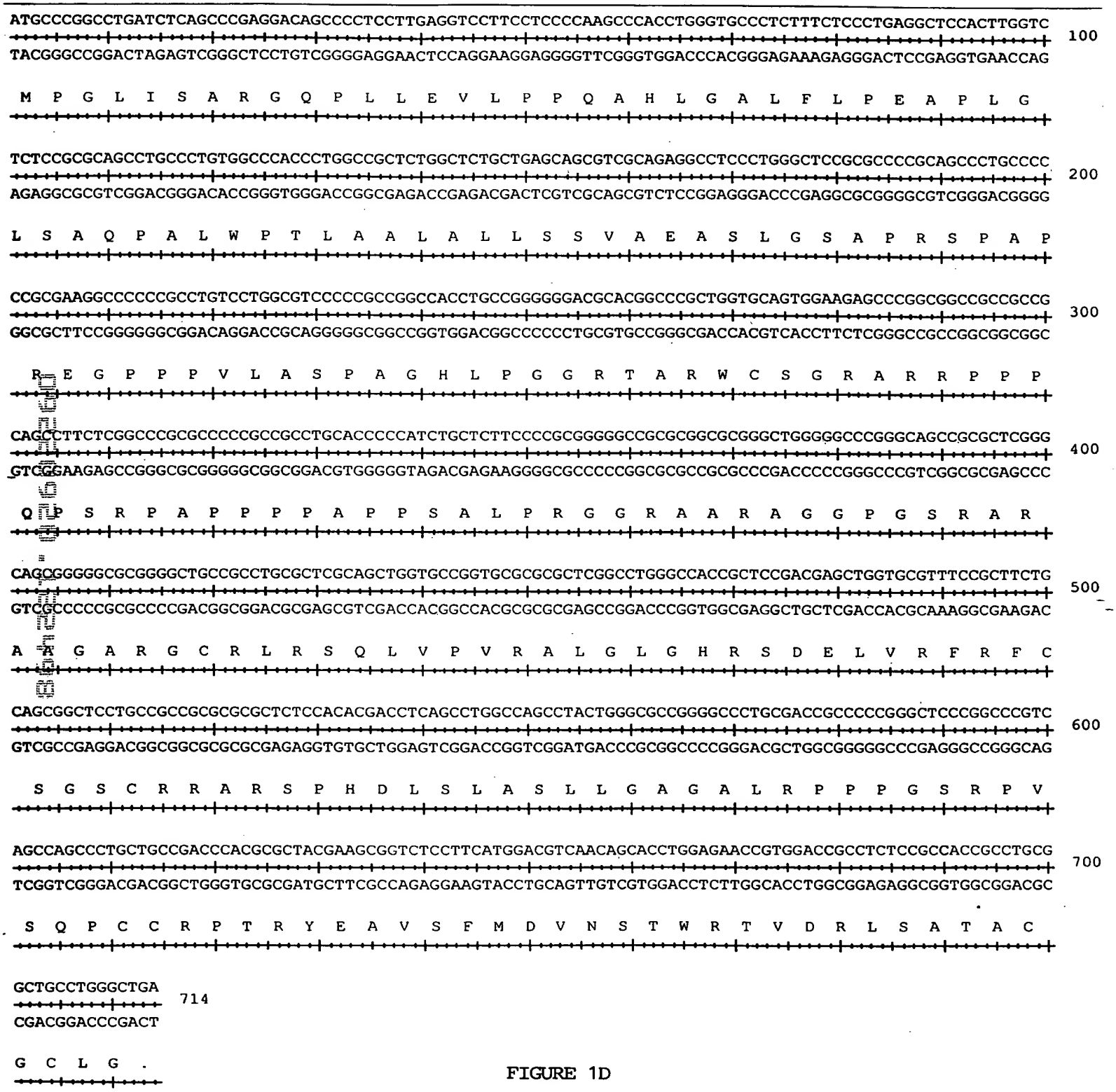
FIGURE 1C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600
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700
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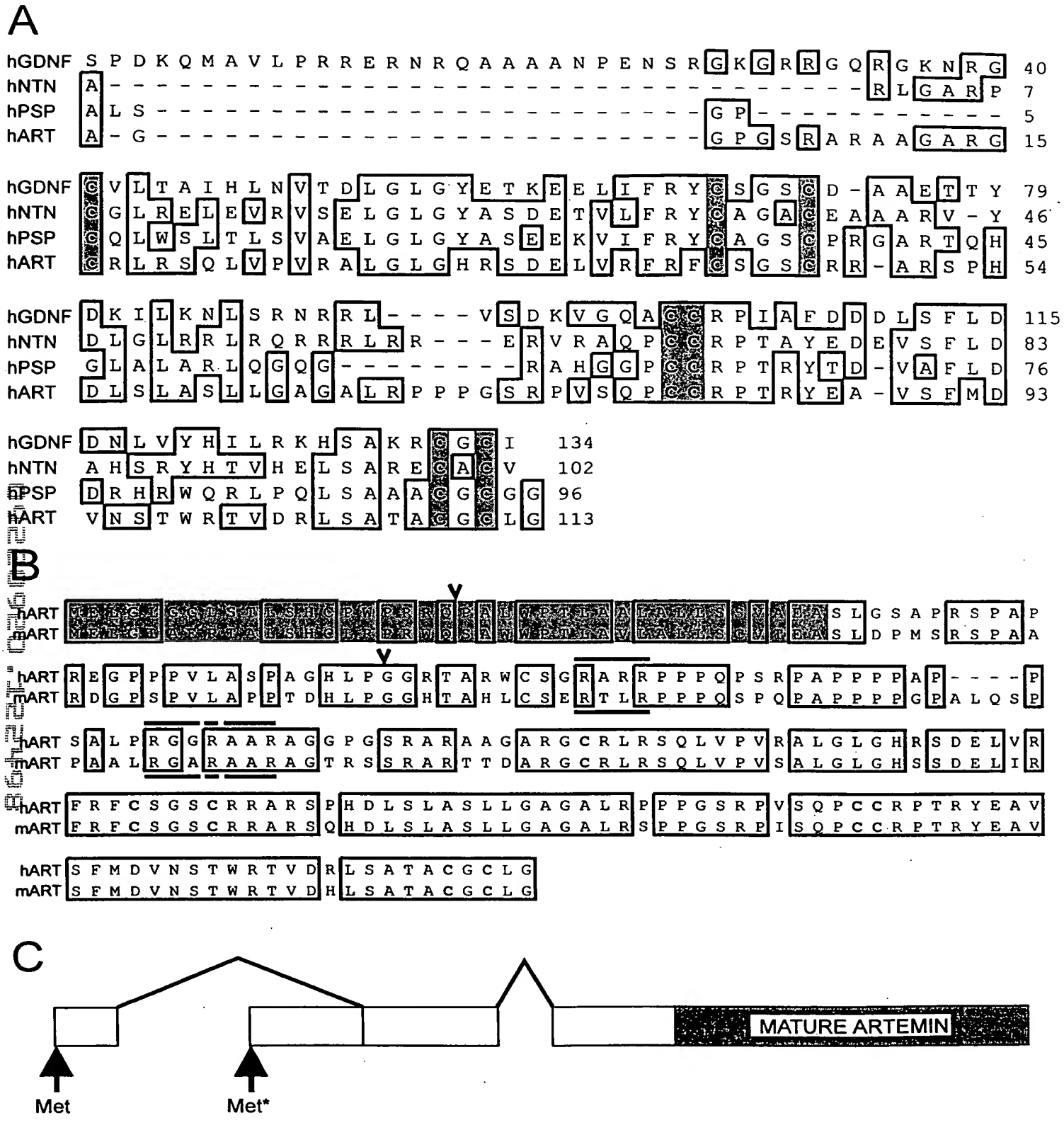
FIGURE 1D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hPSP A L S - G P - - - - - - - - - - 5
hART A - G - G P G S R A R A A G A R G 15
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hNTN D L G L R R L R Q R R R L R R - - - E R V R A Q P C C R P T A Y E D E V S F L D 83
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B
hART
mART
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hART S F M D V N S T W R T V D R L S A T A C G C L G
mART S F M D V N S T W R T V D H L S A T A C G C L G
C
MATURE ARTEMIN
Met
Met*

FIGURE 2

```
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 A  G  G  P  G  S  R  A  R  A  A  G  A  R  G  C  R  L  R  S  Q  L  V  P  V  R  A  L  G  L  G  H  R

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GGCTGCTCGACCACGCAAAGGCGAAGACGTCGCCGAGGACGGCGGCGCGCGCGAGAGGTGTGCTGGAGTCGGACCGGTCGGATGACCCGCGGCCCCGGGA

 S  D  E  L  V  R  F  R  F  C  S  G  S  C  R  R  A  R  S  P  H  D  L  S  L  A  S  L  L  G  A  G  A  L

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  R  P  P  P  G  S  R  P  V  S  Q  P  C  C  R  P  T  R  Y  E  A  V  S  F  M  D  V  N  S  T  W  R  T

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 V  D  R  L  S  A  T  A  C  G  C  L  G  .
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FIGURE 3A

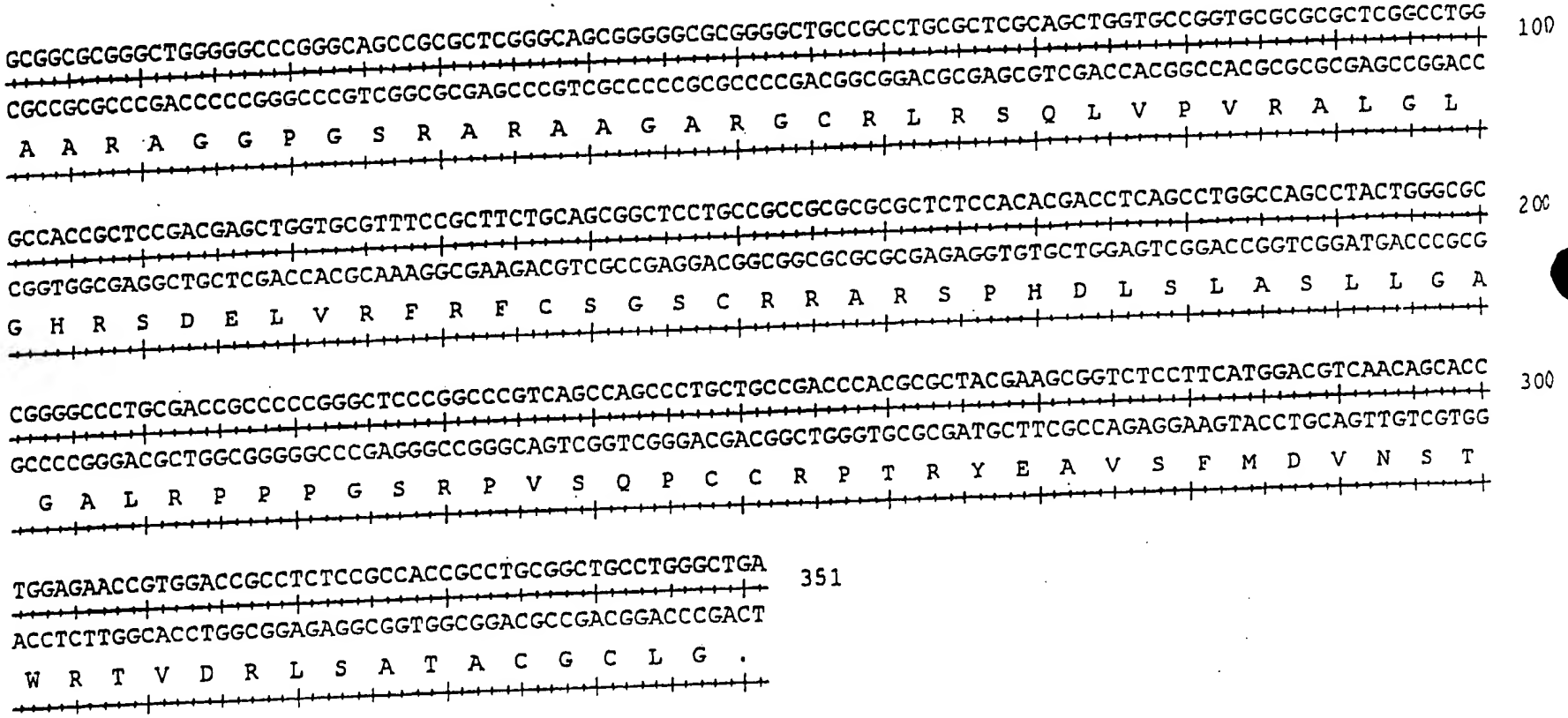
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FIGURE 3B

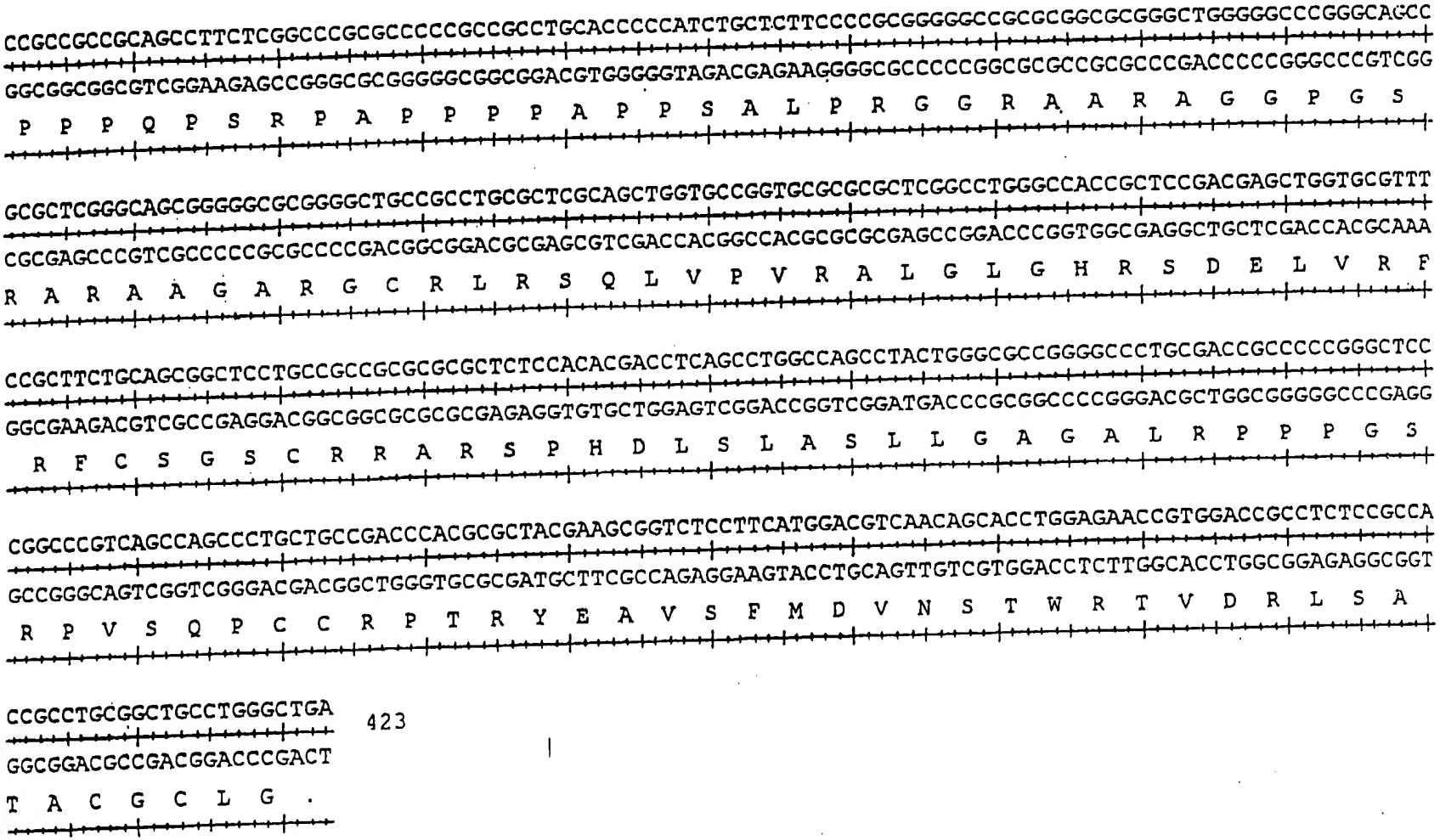
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FIGURE 3C

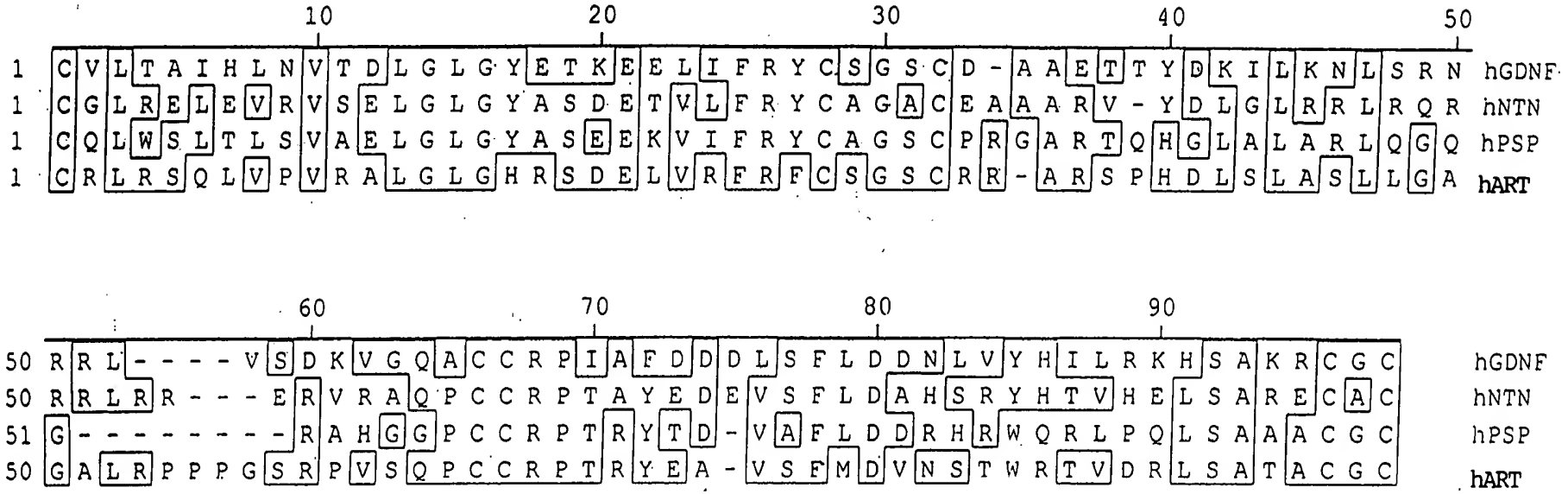
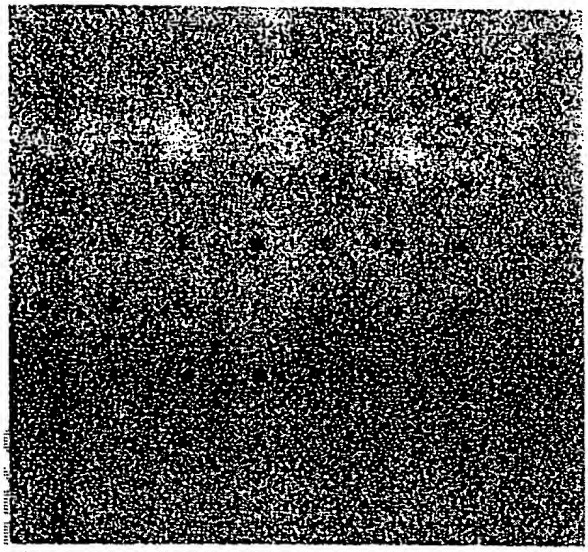


FIGURE 4

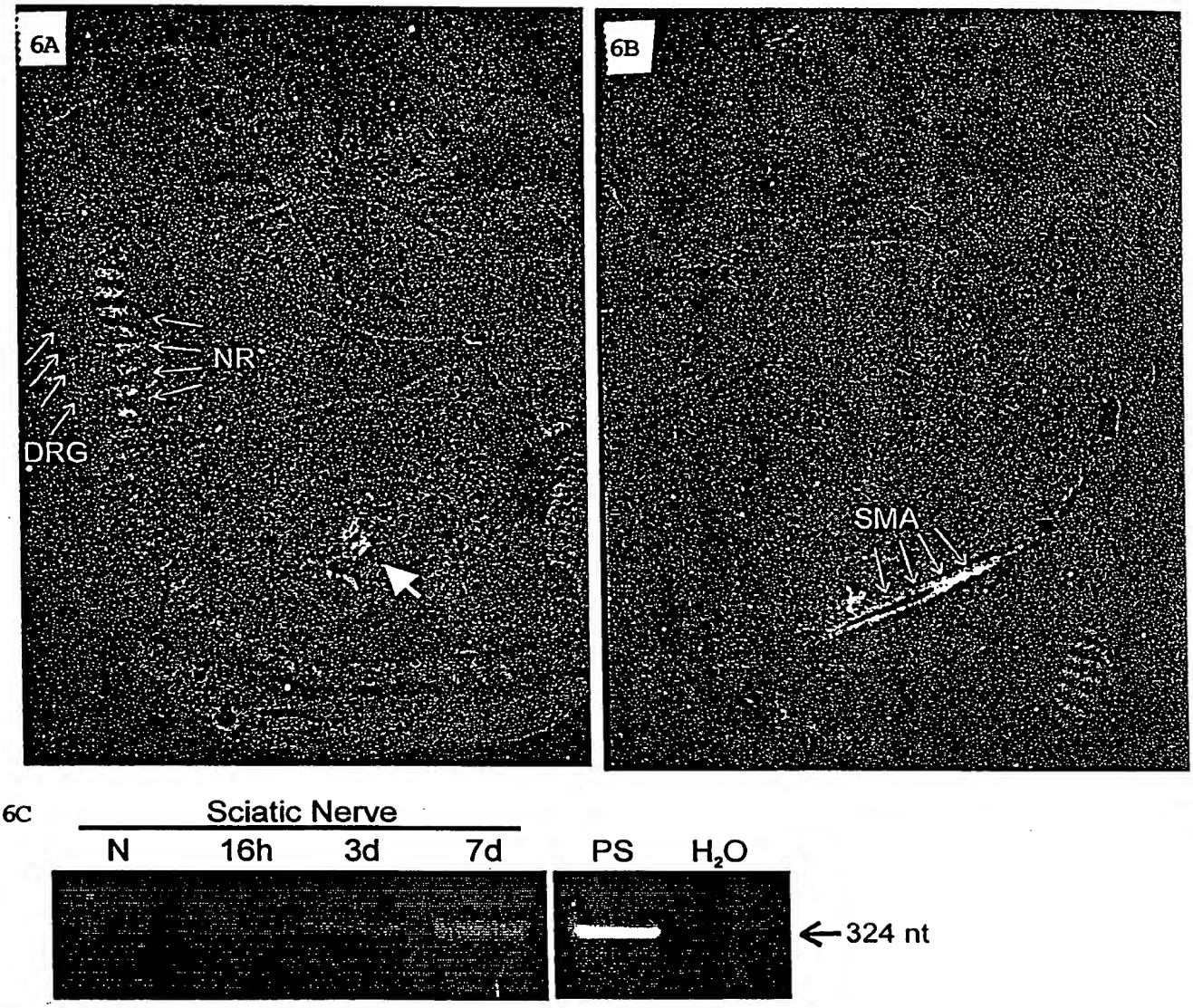
5A



5B

	1	2	3	4	5	6	7	8
A	whole brain	amygdala	caudate nucleus	cere-bellum	cerebral cortex	frontal lobe	hippo-campus	medulla oblongata
B	occipital lobe	putamen	substantia nigra	temporal lobe	thalamus	sub-thalamic nucleus	spinal cord	
C	heart	aorta	skeletal muscle	colon	bladder	uterus	prostate	stomach
D	testis	ovary	pancreas	pituitary gland	adrenal gland	thyroid gland	salivary gland	mammary gland
E	kidney	liver	small intestine	spleen	thymus	peripheral leukocyte	lymph node	bone marrow
F	appendix	lung	trachea	placenta				
G	fetal brain	fetal heart	fetal kidney	fetal liver	fetal spleen	fetal thymus	fetal lung	
H	yeast total RNA 100 ng	yeast tRNA 100 ng	*E. coli* rRNA 100 ng	*E. coli* DNA 100 ng	Poly r(A) 100 ng	human C_0t1 DNA 100 ng	human DNA 100 ng	human DNA 500 ng

FIGURE 5



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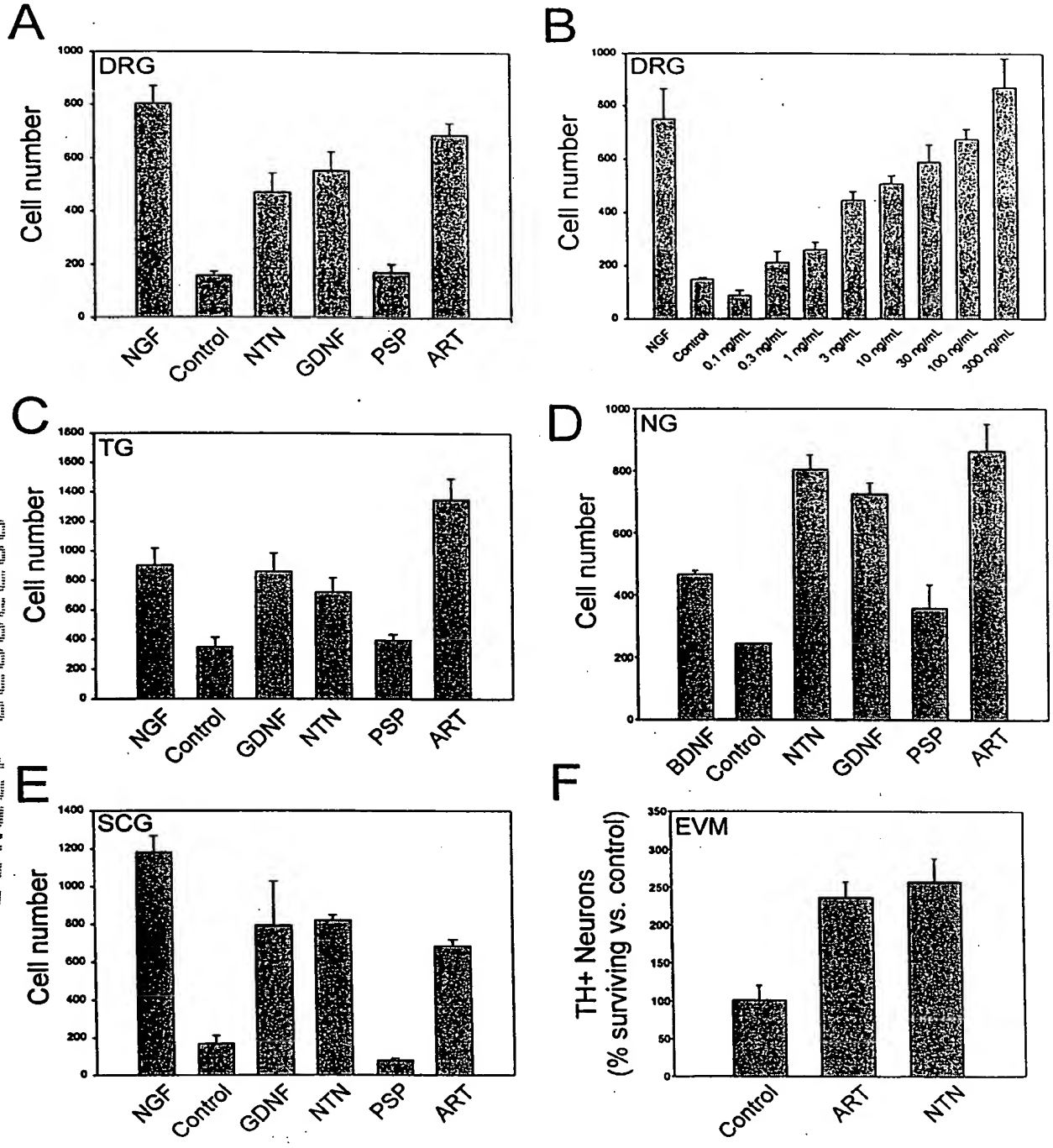
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100 ng/mL
300 ng/mL
C
TG
Cell number
1800
1600
1400
1200
1000
800
600
400
200
0
NGF
Control
GDNF
NTN
PSP
ART
D
NG
Cell number
1000
800
600
400
200
0
BDNF
Control
NTN
GDNF
PSP
ART
E
SCG
Cell number
1400
1200
1000
800
600
400
200
0
NGF
Control
GDNF
NTN
PSP
ART
F
EVM
TH+ Neurons
(% surviving vs. control)
350
300
250
200
150
100
50
0
Control
ART
NTN

FIGURE 7

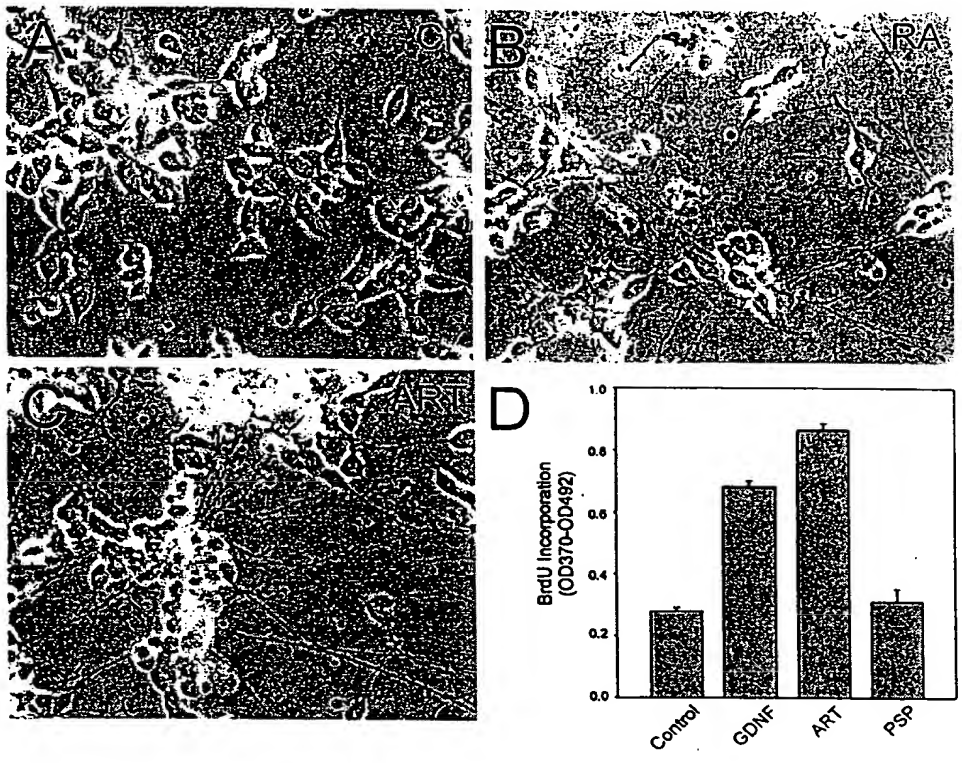


FIGURE 8

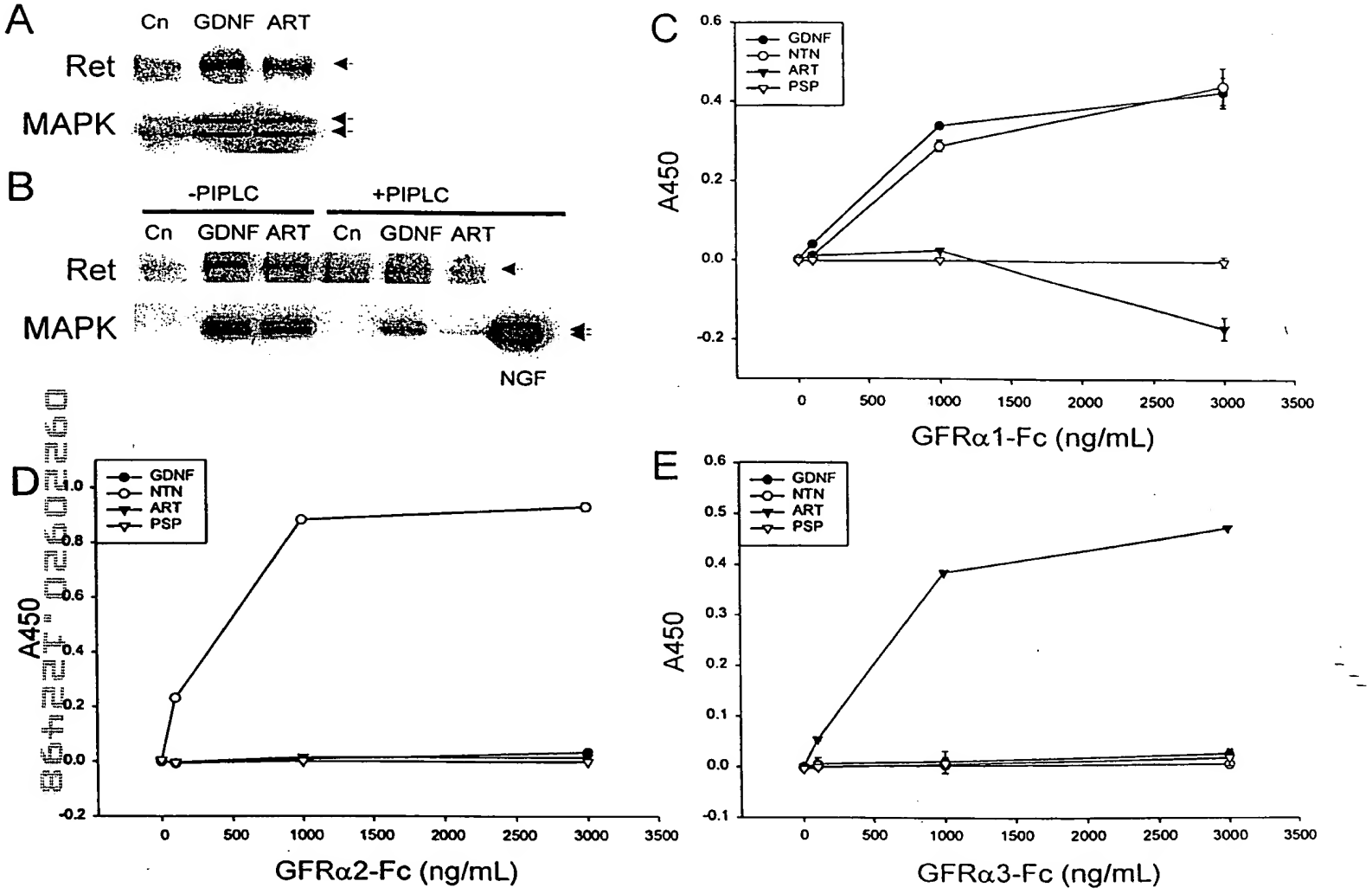

A
Cn
GDNF
ART
Ret
MAPK
B
-PIPLC
+PIPLC
Cn
GDNF
ART
Cn
GDNF
ART
Ret
MAPK
NGF
C
GDNF
NTN
ART
PSP
A450
GFRα1-Fc (ng/mL)
D
GDNF
NTN
ART
PSP
A450
GFRα2-Fc (ng/mL)
E
GDNF
NTN
ART
PSP
A450
GFRα3-Fc (ng/mL)

FIGURE 9

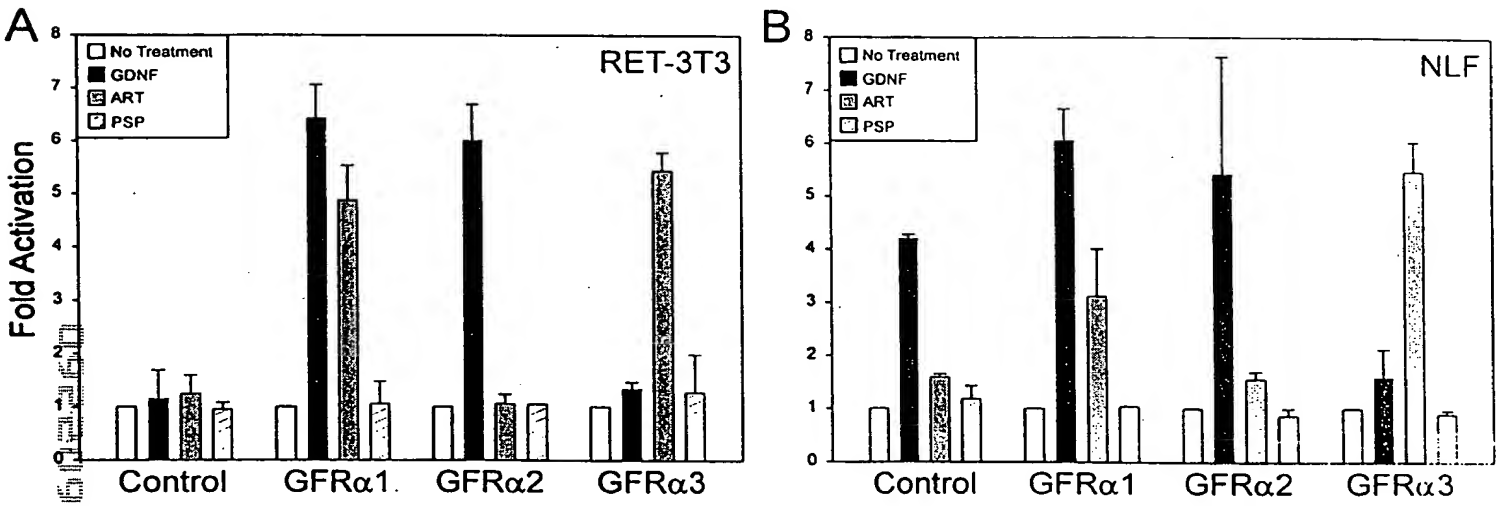

A
B
No Treatment
GDNF
ART
PSP
RET-3T3
NLF
Fold Activation
0
1
2
3
4
5
6
7
8
Control
GFRα1
GFRα2
GFRα3

FIGURE 10

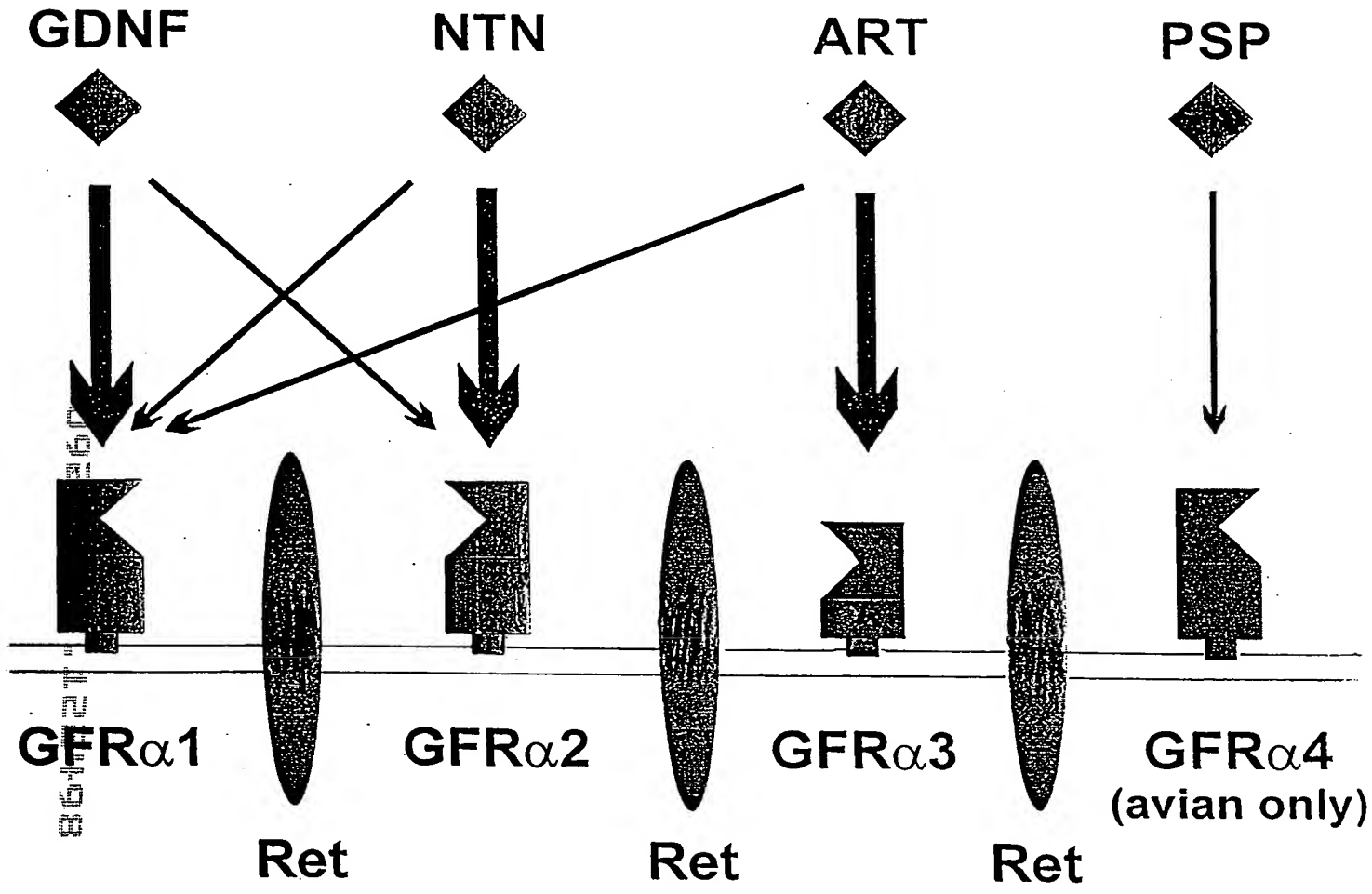

GDNF
NTN
ART
PSP
GFRα1
GFRα2
GFRα3
GFRα4
(avian only)
Ret
Ret
Ret

FIGURE 11

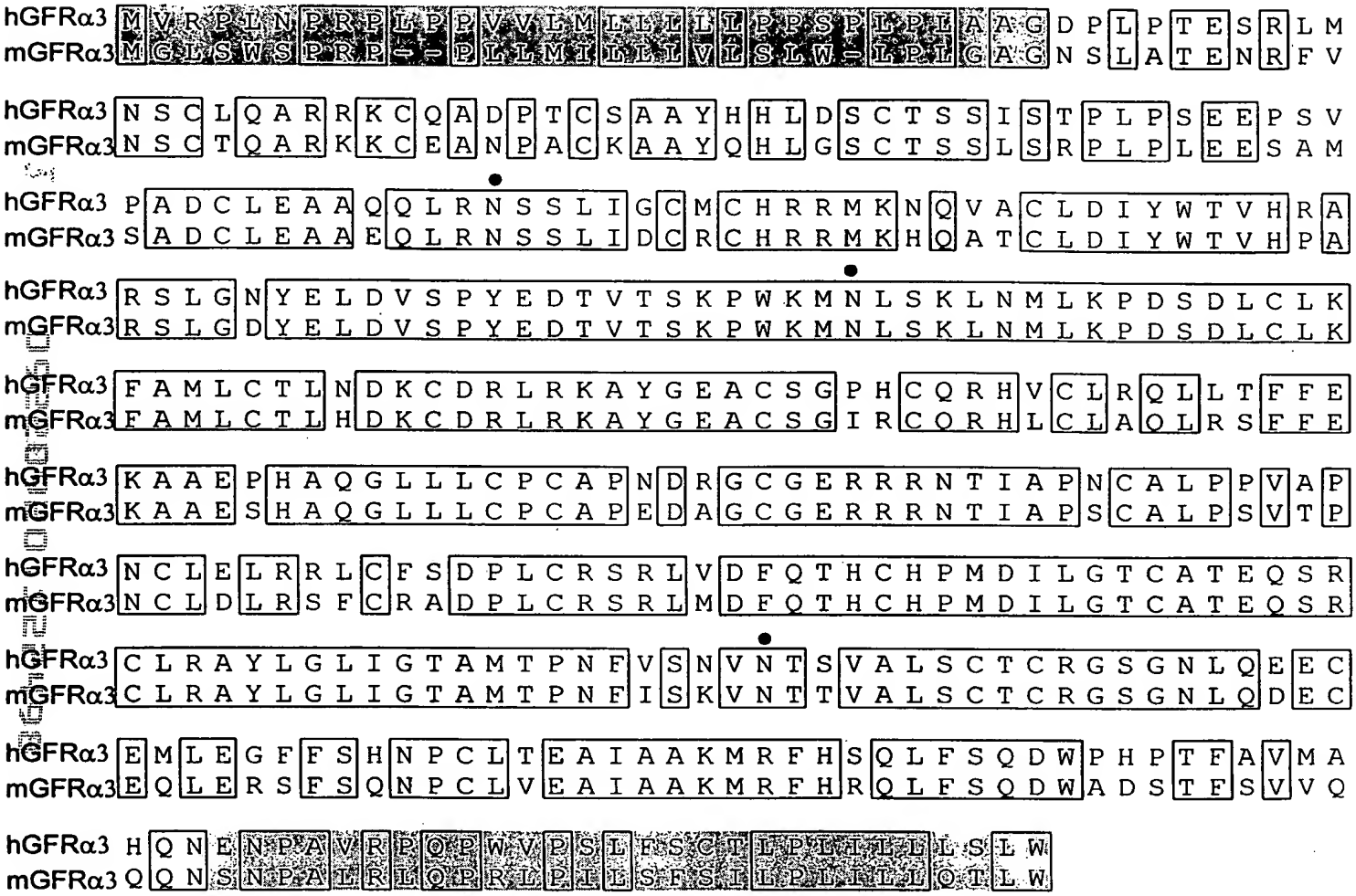

hGFRα3 MVRPLNPRRPLPPVVLMLLLLLPPSPLPLAAGDPLPTESRLM
mGFRα3 MGLSWSPRP--PLLMILLLVLSLW-LPLGAGNSLATENRFV
hGFRα3 NSCLQARRKCQADPTCSAAYHHLDSCTSSISTPLPSEEPSV
mGFRα3 NSCTQARKKCEANPACKAAYQHLGSCTSSLSRPLPLEESAM
hGFRα3 PADCLEAAQQLRNSSLIGCMCHRRMKNQVACLDIYWTVHRA
mGFRα3 SADCLEAAEQLRNSSLIDCRCHRRMKHQATCLDIYWTVHPA
hGFRα3 RSLGNYELDVSPYEDTVTSKPWKMNLSKLNMLKPDSDLCLK
mGFRα3 RSLGDYELDVSPYEDTVTSKPWKMNLSKLNMLKPDSDLCLK
hGFRα3 FAMLCTLNDKCDRLRKAYGEACSGPHCQRHVCLRQLLTFFE
mGFRα3 FAMLCTLHDKCDRLRKAYGEACSGIRCQRHLCLAQLRSFFE
hGFRα3 KAAEPHAQGLLLCPCAPNDRGCGERRRNTIAPNCALPPVAP
mGFRα3 KAAESHAQGLLLCPCAPEDAGCGERRRNTIAPSCALPSVTP
hGFRα3 NCLELRRLCFSDPLCRSRLVDFQTHCHPMDILGTCATEQSR
mGFRα3 NCLDLRSFCRADPLCRSRLMDFQTHCHPMDILGTCATEQSR
hGFRα3 CLRAYLGLIGTAMTPNFVSNVNTSVALSCTCRGSGNLQEEC
mGFRα3 CLRAYLGLIGTAMTPNFISKVNTTVALSCTCRGSGNLQDEC
hGFRα3 EMLEGFFSHNPCLTEAIAAKMRFHSQLFSQDWPHPTFAVMA
mGFRα3 EQLERSFSQNPCLVEAIAAKMRFHRQLFSQDWADSTFSVVQ
hGFRα3 HQNENPAVRPQPWVPSLFSCTLPLILLLLSLW
mGFRα3 QQNSNPALRLQPRLPILSFSILPLRLLQTLW

FIGURE 12

ATGGTGCGCCCCCTGAACCCGCGACCGCTGCCGCCCGTAGTCCTGATGTTGCTGCTGCTGCTGCCGCCGTCGCCGCTGCC
TCTCGCAGCCGGAGACCCCCTTCCCACAGAAAGCCGACTCATGAACAGCTGTCTCCAGGCCAGGAGGAAGTGCCAGGCTG
ATCCCACCTGCAGTGCTGCCTACCACCACCTGGATTCCTGCACCTCTAGCATAAGCACCCCACTGCCCTCAGAGGAGCCT
TCGGTCCCTGCTGACTGCCTGGAGGCAGCACAGCAACTCAGGAACAGCTCTCTGATAGGCTGCATGTGCCACCGGCGCAT
GAAGAACCAGGTTGCCTGCTTGGACATCTATTGGACCGTTCACCGTGCCCGCAGCCTTGGTAACTATGAGCTGGATGTCT
CCCCCTATGAAGACACAGTGACCAGCAAACCCTGGAAAATGAATCTCAGCAAACTGAACATGCTCAAACCAGACTCAGAC
CTCTGCCTCAAGTTTGCCATGCTGTGTACTCTCAATGACAAGTGTGACCGGCTGCGCAAGGCCTACGGGGAGGCGTGCTC
CGGGCCCCACTGCCAGCGCCACGTCTGCCTCAGGCAGCTGCTCACTTTCTTCGAGAAGGCCGCCGAGCCCCACGCGCAGG
GCCTGCTACTGTGCCCATGTGCCCCCAACGACCGGGGCTGCGGGGAGCGCCGGCGCAACACCATCGCCCCCAACTGCGCG
CTGCCGCCTGTGGCCCCCAACTGCCTGGAGCTGCGGCGCCTCTGCTTCTCCGACCCGCTTTGCAGATCACGCCTGGTGGA
TTTCCAGACCCACTGCCATCCCATGGACATCCTAGGAACTTGTGCAACAGAGCAGTCCAGATGTCTACGAGCATACCTGG
GGCTGATTGGGACTGCCATGACCCCCAACTTTGTCAGCAATGTCAACACCAGTGTTGCCTTAAGCTGCACCTGCCGAGGC
AGTGGCAACCTGCAGGAGGAGTGTGAAATGCTGGAAGGGTTCTTCTCCCACAACCCCTGCCTCACGGAGGCCATTGCAGC
TAAGATGCGTTTTCACAGCCAACTCTTCTCCCAGGACTGGCCACACCCTACCTTTGCTGTGATGGCACACCAGAATGAAA
ACCCTGCTGTGAGGCCACAGCCCTGGGTGCCCTCTCTTTTCTCCTGCACGCTTCCCTTGATTCTGCTCCTGAGCCTATGG
TAG

FIGURE 13

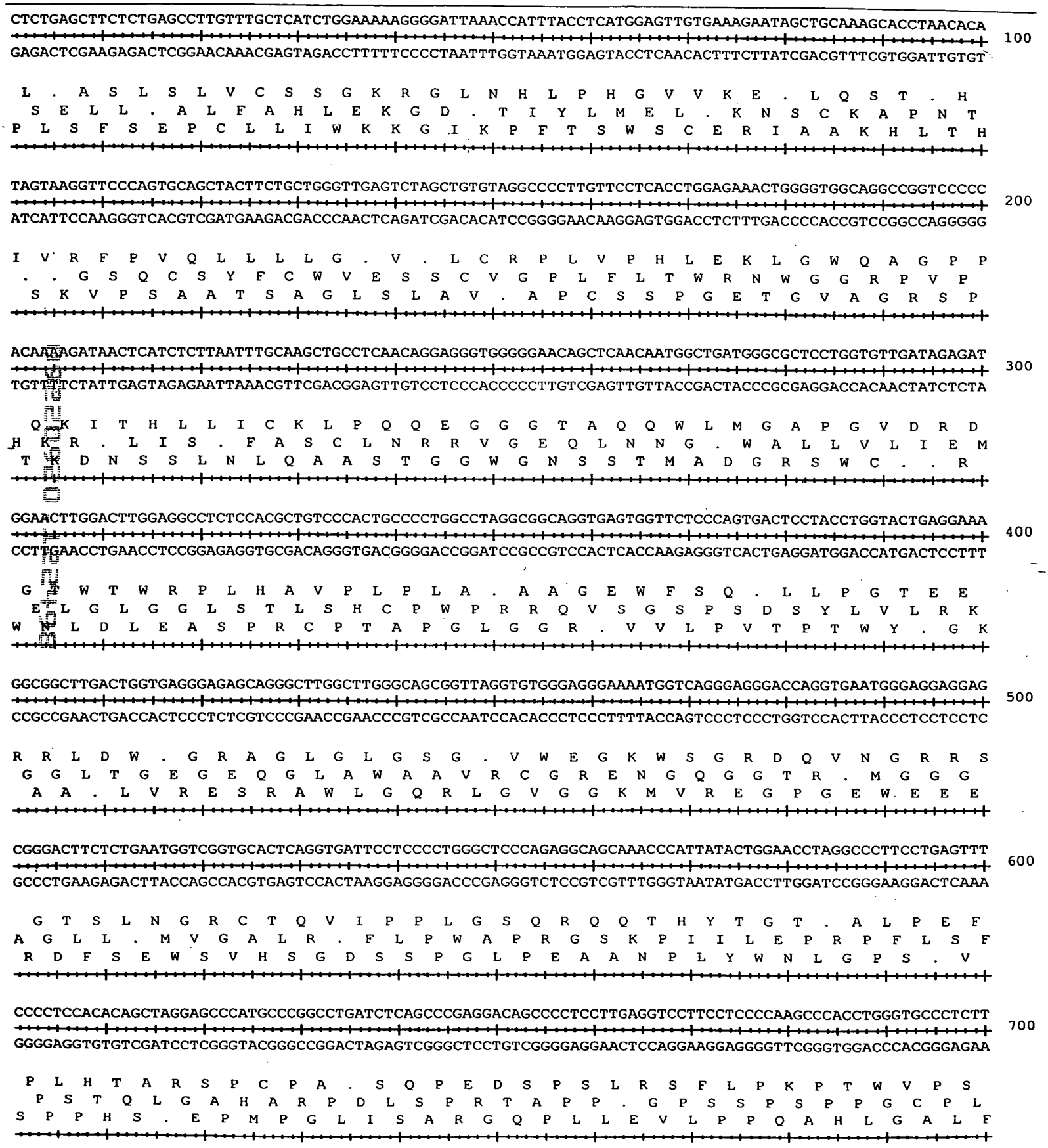
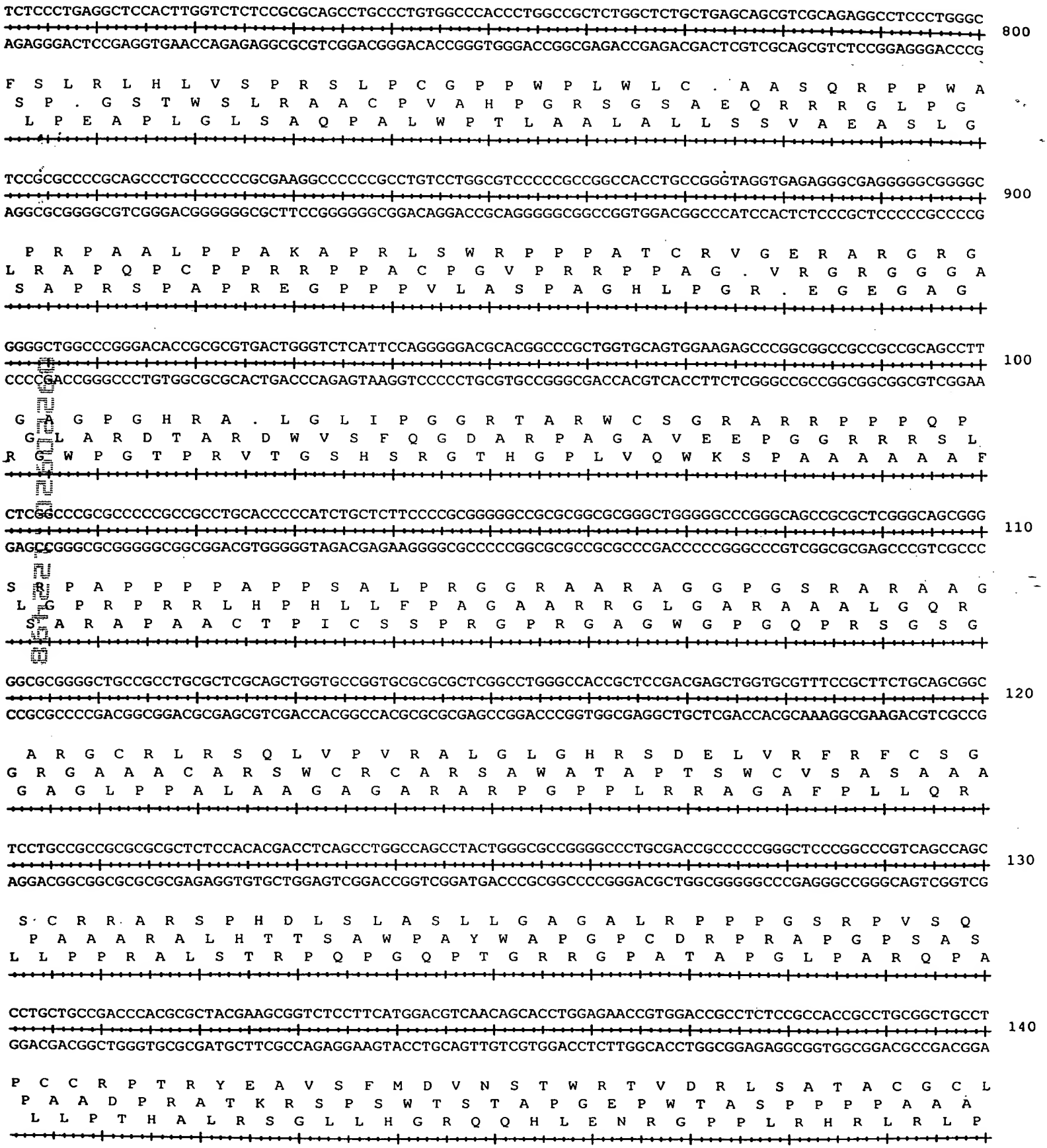

CTCTGAGCTTCTCTGAGCCTTGTTTGCTCATCTGGAAAAAGGGGATTAAACCATTTACCTCATGGAGTTGTGAAAGAATAGCTGCAAAGCACCTAACACA
100
GAGACTCGAAGAGACTCGGAACAAACGAGTAGACCTTTTTCCCCTAATTTGGTAAATGGAGTACCTCAACACTTTCTTATCGACGTTTCGTGGATTGTGT
L . A S L S L V C S S G K R G L N H L P H G V V K E . L Q S T . H
S E L L . A L F A H L E K G D . T I Y L M E L . K N S C K A P N T
P L S F S E P C L L I W K K G I K P F T S W S C E R I A A K H L T H
TAGTAAGGTTCCCAGTGCAGCTACTTCTGCTGGGTTGAGTCTAGCTGTGTAGGCCCCTTGTTCCTCACCTGGAGAAACTGGGGTGGCAGGCCGGTCCCCC
200
ATCATTCCAAGGGTCACGTCGATGAAGACGACCCAACTCAGATCGACACATCCGGGGAACAAGGAGTGGACCTCTTTGACCCCACCGTCCGGCCAGGGGG
I V R F P V Q L L L L G . V . L C R P L V P H L E K L G W Q A G P P
. . G S Q C S Y F C W V E S S C V G P L F L T W R N W G G R P V P
S K V P S A A T S A G L S L A V . A P C S S P G E T G V A G R S P
ACAAAAGATAACTCATCTCTTAATTTGCAAGCTGCCTCAACAGGAGGGTGGGGGAACAGCTCAACAATGGCTGATGGGCGCTCCTGGTGTTGATAGAGAT
300
TGTTTTCTATTGAGTAGAGAATTAAACGTTCGACGGAGTTGTCCTCCCACCCCCTTGTCGAGTTGTTACCGACTACCCGCGAGGACCACAACTATCTCTA
Q K I T H L L I C K L P Q Q E G G G T A Q Q W L M G A P G V D R D
H K R . L I S . F A S C L N R R V G E Q L N N G . W A L L V L I E M
T K D N S S L N L Q A A S T G G W G N S S T M A D G R S W C . . R
GGAACTTGGACTTGGAGGCCTCTCCACGCTGTCCCACTGCCCCTGGCCTAGGCGGCAGGTGAGTGGTTCTCCCAGTGACTCCTACCTGGTACTGAGGAAA
400
CCTTGAACCTGAACCTCCGGAGAGGTGCGACAGGGTGACGGGGACCGGATCCGCCGTCCACTCACCAAGAGGGTCACTGAGGATGGACCATGACTCCTTT
G T W T W R P L H A V P L P L A . A A G E W F S Q . L L P G T E E
E L G L G G L S T L S H C P W P R R Q V S G S P S D S Y L V L R K
W N L D L E A S P R C P T A P G L G G R . V V L P V T P T W Y . G K
GGCGGCTTGACTGGTGAGGGAGAGCAGGGCTTGGCTTGGGCAGCGGTTAGGTGTGGGAGGGAAAATGGTCAGGGAGGGACCAGGTGAATGGGAGGAGGAG
500
CCGCCGAACTGACCACTCCCTCTCGTCCCGAACCGAACCCGTCGCCAATCCACACCCTCCCTTTTACCAGTCCCTCCCTGGTCCACTTACCCTCCTCCTC
R R L D W . G R A G L G L G S G . V W E G K W S G R D Q V N G R R S
G G L T G E G E Q G L A W A A V R C G R E N G Q G G T R . M G G G
A A . L V R E S R A W L G Q R L G V G G K M V R E G P G E W E E E
CGGGACTTCTCTGAATGGTCGGTGCACTCAGGTGATTCCTCCCCTGGGCTCCCAGAGGCAGCAAACCCATTATACTGGAACCTAGGCCCTTCCTGAGTTT
600
GCCCTGAAGAGACTTACCAGCCACGTGAGTCCACTAAGGAGGGGACCCGAGGGTCTCCGTCGTTTGGGTAATATGACCTTGGATCCGGGAAGGACTCAAA
G T S L N G R C T Q V I P P L G S Q R Q Q T H Y T G T . A L P E F
A G L L . M V G A L R . F L P W A P R G S K P I I L E P R P F L S F
R D F S E W S V H S G D S S P G L P E A A N P L Y W N L G P S . V
CCCCTCCACACAGCTAGGAGCCCATGCCCGGCCTGATCTCAGCCCGAGGACAGCCCCTCCTTGAGGTCCTTCCTCCCCAAGCCCACCTGGGTGCCCTCTT
700
GGGGAGGTGTGTCGATCCTCGGGTACGGGCCGGACTAGAGTCGGGCTCCTGTCGGGGAGGAACTCCAGGAAGGAGGGGTTCGGGTGGACCCACGGGAGAA
P L H T A R S P C P A . S Q P E D S P S L R S F L P K P T W V P S
P S T Q L G A H A R P D L S P R T A P P . G P S S P S P P G C P L
S P P H S . E P M P G L I S A R G Q P L L E V L P P Q A H L G A L F

FIGURE 14A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AGAGGGACTCCGAGGTGAACCAGAGAGGCGCGTCGGACGGGACACCGGGTGGGACCGGCGAGACCGAGACGACTCGTCGCAGCGTCTCCGGAGGGACCCG
800
F S L R L H L V S P R S L P C G P P W P L W L C . A A S Q R P P W A
S P . G S T W S L R A A C P V A H P G R S G S A E Q R R R G L P G
L P E A P L G L S A Q P A L W P T L A A L A L L S S V A E A S L G
TCCGCGCCCCGCAGCCCTGCCCCCCGCGAAGGCCCCCCGCCTGTCCTGGCGTCCCCCGCCGGCCACCTGCCGGGTAGGTGAGAGGGCGAGGGGGCGGGGC
AGGCGCGGGGCGTCGGGACGGGGGGCGCTTCCGGGGGGCGGACAGGACCGCAGGGGGCGGCCGGTGGACGGCCCATCCACTCTCCCGCTCCCCCGCCCCG
900
P R P A A L P P A K A P R L S W R P P P A T C R V G E R A R G R G
L R A P Q P C P P R R P P A C P G V P R R P P A G . V R G R G G G A
S A P R S P A P P R E G P P P V L A S P A G H L P G R . E G E G A G
GGGGCTGGCCCGGGACACCGCGCGTGACTGGGTCTCATTCCAGGGGGACGCACGGCCCGCTGGTGCAGTGGAAGAGCCCGGCGGCCGCCGCCGCAGCCTT
CCCCGACCGGGCCCTGTGGCGCGCACTGACCCAGAGTAAGGTCCCCCTGCGTGCCGGGCGACCACGTCACCTTCTCGGGCCGCCGGCGGCGGCGTCGGAA
100
G A G P G H R A . L G L I P G G R T A R W C S G R A R R P P P Q P
G L A R D T A R D W V S F Q G D A R P A G A V E E P G G R R R S L
R G W P G T P R V T G S H S R G T H G P L V Q W K S P A A A A A A F
CTCGGCCCGCGCCCCCGCCGCCTGCACCCCCATCTGCTCTTCCCCGCGGGGGCCGCGCGGCGCGGGCTGGGGGCCCGGGCAGCCGCGCTCGGGCAGCGGG
GAGCCGGGCGCGGGGGCGGCGGACGTGGGGGTAGACGAGAAGGGGCGCCCCCGGCGCGCCGCGCCCGACCCCCGGGCCCGTCGGCGCGAGCCCGTCGCCC
110
S R P A P P P P A P P S A L P R G G R A A R A G G P G S R A R A A G
L G P R P R R L H P H L L F P A G A A R R G L G A R A A A L G Q R
S A R A P A A C T P I C S S P R G P R G A G W G P G Q P R S G S G
GGCGCGGGGCTGCCGCCTGCGCTCGCAGCTGGTGCCGGTGCGCGCGCTCGGCCTGGGCCACCGCTCCGACGAGCTGGTGCGTTTCCGCTTCTGCAGCGGC
CCGCGCCCCGACGGCGGACGCGAGCGTCGACCACGGCCACGCGCGCGAGCCGGACCCGGTGGCGAGGCTGCTCGACCACGCAAAGGCGAAGACGTCGCCG
120
A R G C R L R S Q L V P V R A L G L G H R S D E L V R F R F C S G
G R G A A A C A R S W C R C A R S A W A T A P T S W C V S A S A A A
G A G L P P A L A A G A G A R A R P G P P L R R A G A F P L L Q R
TCCTGCCGCCGCGCGCGCTCTCCACACGACCTCAGCCTGGCCAGCCTACTGGGCGCCGGGGCCCTGCGACCGCCCCCGGGCTCCCGGCCCGTCAGCCAGC
AGGACGGCGGCGCGCGCGAGAGGTGTGCTGGAGTCGGACCGGTCGGATGACCCGCGGCCCCGGGACGCTGGCGGGGGCCCGAGGGCCGGGCAGTCGGTCG
130
S C R R A R S P H D L S L A S L L G A G A L R P P P G S R P V S Q
P A A A R A L H T T S A W P A Y W A P G P C D R P R A P G P S A S
L L P P R A L S T R P Q P G Q P T G R R G P A T A P G L P A R Q P A
CCTGCTGCCGACCCACGCGCTACGAAGCGGTCTCCTTCATGGACGTCAACAGCACCTGGAGAACCGTGGACCGCCTCTCCGCCACCGCCTGCGGCTGCCT
GGACGACGGCTGGGTGCGCGATGCTTCGCCAGAGGAAGTACCTGCAGTTGTCGTGGACCTCTTGGCACCTGGCGGAGAGGCGGTGGCGGACGCCGACGGA
140
P C C R P T R Y E A V S F M D V N S T W R T V D R L S A T A C G C L
P A A D P R A T K R S P S W T S T A P G E P W T A S P P P P A A A
L L P T H A L R S G L L H G R Q Q H L E N R G P P L R H R L R L P

FIGURE 14B

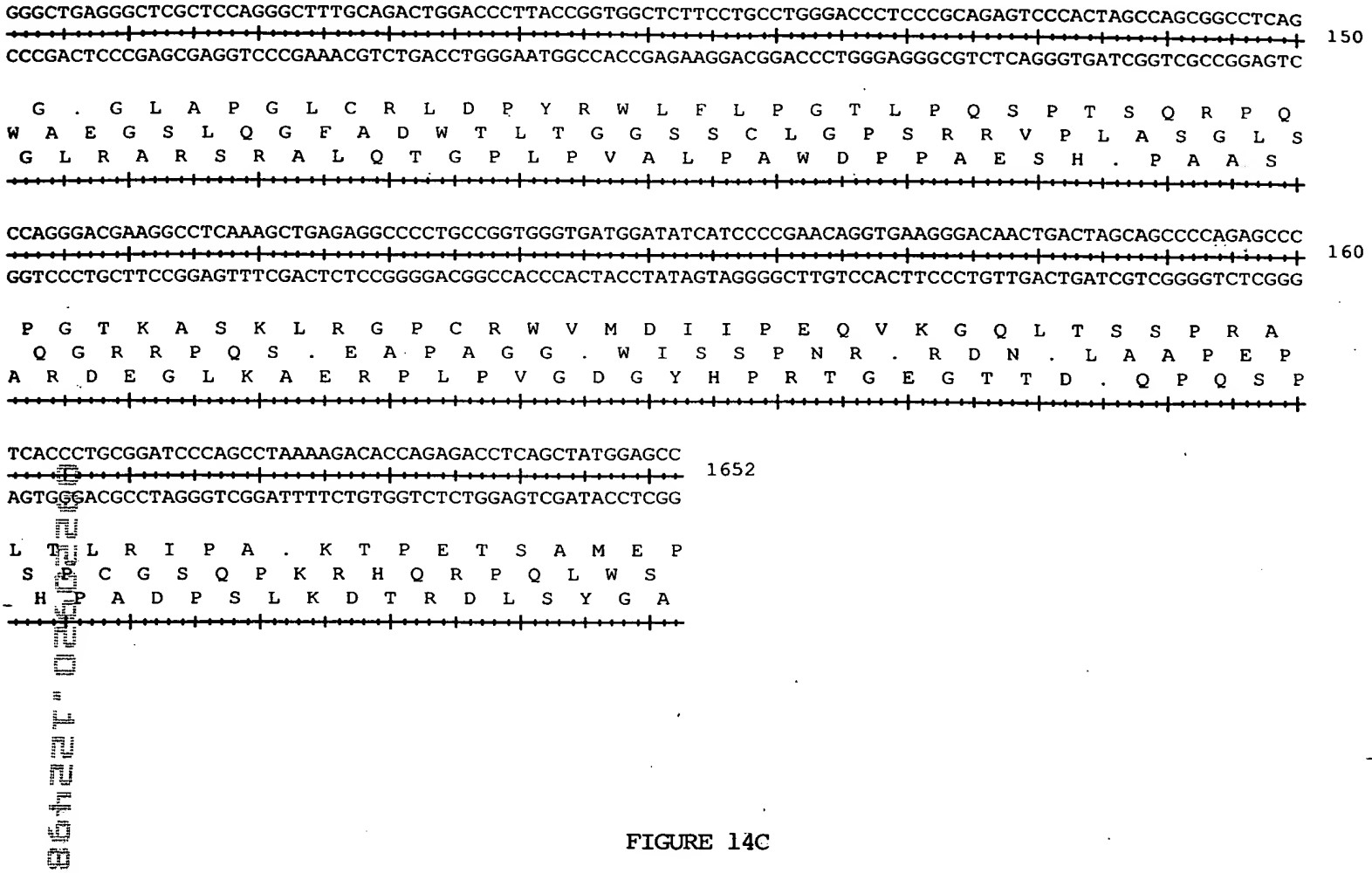
GGGCTGAGGGCTCGCTCCAGGGCTTTGCAGACTGGACCCTTACCGGTGGCTCTTCCTGCCTGGGACCCTCCCGCAGAGTCCCACTAGCCAGCGGCCTCAG
150
CCCGACTCCCGAGCGAGGTCCCGAAACGTCTGACCTGGGAATGGCCACCGAGAAGGACGGACCCTGGGAGGGCGTCTCAGGGTGATCGGTCGCCGGAGTC
G . G L A P G L C R L D P Y R W L F L P G T L P Q S P T S Q R P Q
W A E G S L Q G F A D W T L T G G S S C L G P S R R V P L A S G L S
G L R A R S R A L Q T G P L P V A L P A W D P P A E S H . P A A S
CCAGGGACGAAGGCCTCAAAGCTGAGAGGCCCCTGCCGGTGGGTGATGGATATCATCCCCGAACAGGTGAAGGGACAACTGACTAGCAGCCCCAGAGCCC
160
GGTCCCTGCTTCCGGAGTTTCGACTCTCCGGGGACGGCCACCCACTACCTATAGTAGGGGCTTGTCCACTTCCCTGTTGACTGATCGTCGGGGTCTCGGG
P G T K A S K L R G P C R W V M D I I P E Q V K G Q L T S S P R A
Q G R R P Q S . E A P A G G . W I S S P N R . R D N . L A A P E P
A R D E G L K A E R P L P V G D G Y H P R T G E G T T D . Q P Q S P
TCACCCTGCGGATCCCAGCCTAAAAGACACCAGAGACCTCAGCTATGGAGCC
1652
AGTGGGACGCCTAGGGTCGGATTTTCTGTGGTCTCTGGAGTCGATACCTCGG
L T L R I P A . K T P E T S A M E P
S P C G S Q P K R H Q R P Q L W S
H P A D P S L K D T R D L S Y G A

FIGURE 14C

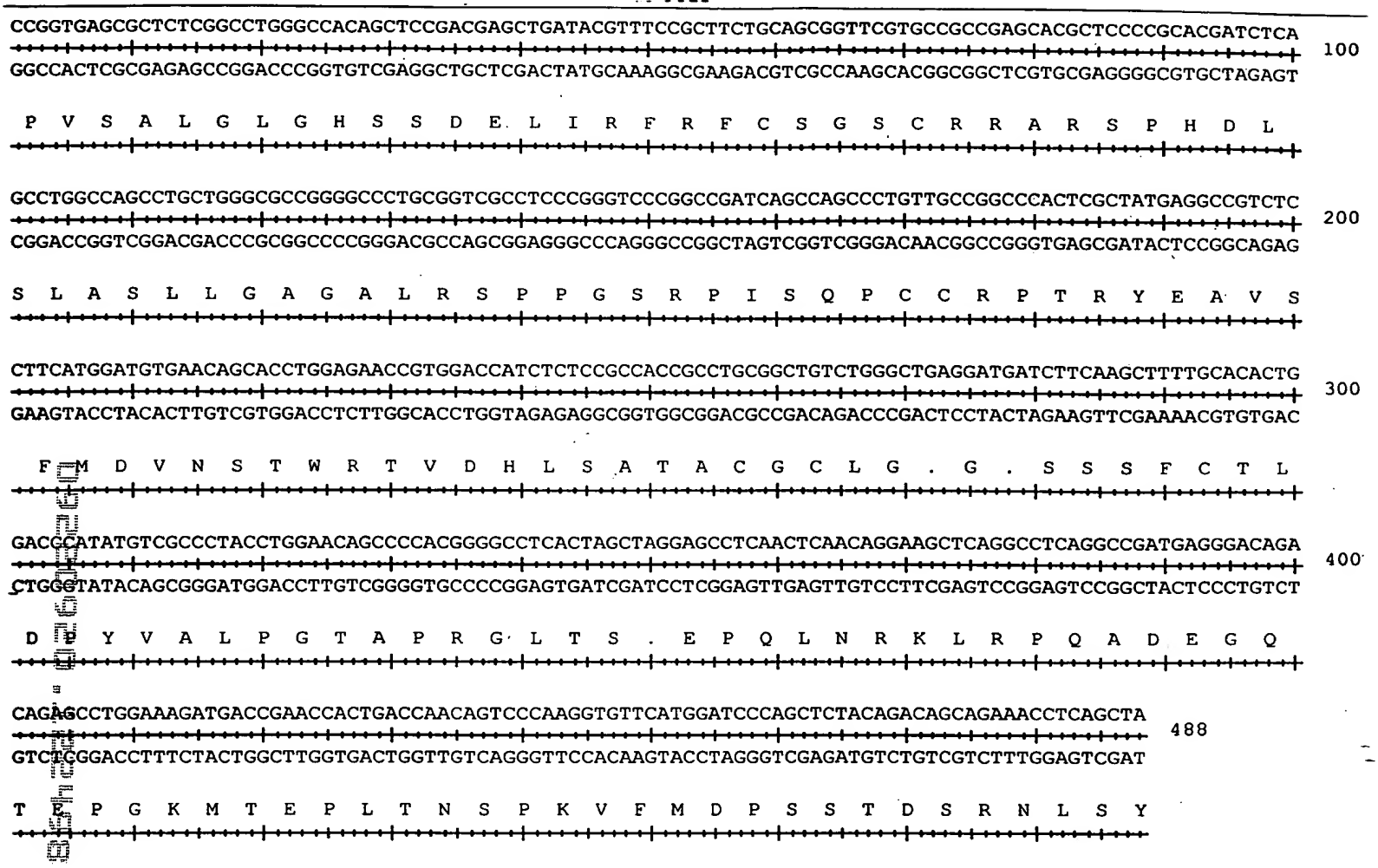
CCGGTGAGCGCTCTCGGCCTGGGCCACAGCTCCGACGAGCTGATACGTTTCCGCTTCTGCAGCGGTTCGTGCCGCCGAGCACGCTCCCCGCACGATCTCA
100
GGCCACTCGCGAGAGCCGGACCCGGTGTCGAGGCTGCTCGACTATGCAAAGGCGAAGACGTCGCCAAGCACGGCGGCTCGTGCGAGGGGCGTGCTAGAGT
P V S A L G L G H S S D E L I R F R F C S G S C R R A R S P H D L
GCCTGGCCAGCCTGCTGGGCGCCGGGGCCCTGCGGTCGCCTCCCGGGTCCCGGCCGATCAGCCAGCCCTGTTGCCGGCCCACTCGCTATGAGGCCGTCTC
200
CGGACCGGTCGGACGACCCGCGGCCCCGGGACGCCAGCGGAGGGCCCAGGGCCGGCTAGTCGGTCGGGACAACGGCCGGGTGAGCGATACTCCGGCAGAG
S L A S L L G A G A L R S P P G S R P I S Q P C C R P T R Y E A V S
CTTCATGGATGTGAACAGCACCTGGAGAACCGTGGACCATCTCTCCGCCACCGCCTGCGGCTGTCTGGGCTGAGGATGATCTTCAAGCTTTTGCACACTG
300
GAAGTACCTACACTTGTCGTGGACCTCTTGGCACCTGGTAGAGAGGCGGTGGCGGACGCCGACAGACCCGACTCCTACTAGAAGTTCGAAAACGTGTGAC
F M D V N S T W R T V D H L S A T A C G C L G . G . S S S F C T L
GACGCATATGTCGCCCTACCTGGAACAGCCCCACGGGGCCTCACTAGCTAGGAGCCTCAACTCAACAGGAAGCTCAGGCCTCAGGCCGATGAGGGACAGA
400
CTGCGTATACAGCGGGATGGACCTTGTCGGGGTGCCCCGGAGTGATCGATCCTCGGAGTTGAGTTGTCCTTCGAGTCCGGAGTCCGGCTACTCCCTGTCT
D P Y V A L P G T A P R G L T S . E P Q L N R K L R P Q A D E G Q
CAGAGCCTGGAAAGATGACCGAACCACTGACCAACAGTCCCAAGGTGTTCATGGATCCCAGCTCTACAGACAGCAGAAACCTCAGCTA
488
GTCTCGGACCTTTCTACTGGCTTGGTGACTGGTTGTCAGGGTTCCACAAGTACCTAGGGTCGAGATGTCTGTCGTCTTTGGAGTCGAT
T E P G K M T E P L T N S P K V F M D P S S T D S R N L S Y

FIGURE 15